

either to require all sets to be HDTV-capable or mandate that all broadcasters transmit a minimum amount of programming in HDTV format.⁹⁵ Otherwise, they have conceded, consumers would reject HDTV because of its monumental attendant costs! CICATS submits that consumers -- not manufacturers, and *not* the Commission -- should be allowed to make this judgment.

The Grand Alliance has conceded that its HDTV formats are the most demanding uses of digital broadcast technology, and that it is therefore necessary to force broadcasters to transmit programming in HDTV in order to force consumers to purchase more expensive HDTV sets.⁹⁶

HDTV is the most defining and most constraining ATV application. . . . By requiring HDTV broadcasts, the Commission will ensure early and frequent availability of HDTV programs which will encourage consumers to purchase HDTV sets, creating higher manufacturing volumes

In other words, the Grand Alliance seeks to use the Commission's processes to force consumers to purchase sophisticated HDTV-capable sets or sacrifice reception of programming sent in the HDTV format! Whatever benefits proponents of the ACATS standard claim in the way of its "flexibility" are clearly negated by the denial of consumer options that would result from its adoption.

⁹⁵ Comments of Hitachi America, Ltd. on the Fourth NPRM, MM Docket No. 87-268 (filed November 20, 1995) at 4-5; Zenith Comments at 4; Comments of Electronics Industry Association on Fourth NPRM, MM Docket No. 87-268 (filed November 20, 1995) at 5; Grand Alliance Comments at 5.

⁹⁶ Written Comments of James E. Carnes on behalf of the Grand Alliance, *En Banc* Hearing before the FCC in MM Docket No. 87-268 (Washington D.C., December 12, 1995) (filed November 30, 1995) at 4

The Commission should not allow its procedures to be subverted in this way for one industry's economic gain at the expense of uninformed consumers.

CICATS's minimum base-line format proposal would save consumers the cost of mandatory HDTV dictated by the ACATS standard. As explained in Section III, under that proposal, even low-cost receivers and set-top boxes could decode all digital broadcast signals and enable consumers to receive all digital programming. Broadcasters would be able to enhance their signals for high definition television, if demand warranted. And consumers would retain the right to decide whether the high definition formats are worth their costs.

A. The ACATS Standard Could Cost Consumers Billions More than a More Streamlined Approach, Such as that Proposed by CICATS.

CICATS has analyzed the cost to consumers of receiving equipment capable of decoding all the ACATS standard's video formats, as well as the cost of analogous equipment designed to decode CICATS's minimum base-line format (again, which would produce pictures of equal or better quality than the ACATS standard's 12 SDTV formats). The methodology for this analysis is detailed in "Cost Comparison of ACATS and CICATS Set-top Converters, Receivers and PC Decoders," attached hereto as Exhibit C.

According to CICATS's analysis, in 1996 a set-top converter box capable of decoding all ACATS formats would cost \$1,350. The same box would cost only \$500 under CICATS's minimum base-line format proposal -- only 37% of its

ACATS-ready counterpart.⁹⁷ Five years out, the cost of an ACATS set-top box might fall to \$300, but a CICATS box would cost only *half that*. And even seven years out, the cost of an ACATS set-top box would still be 160% of the cost of a CICATS box.⁹⁸

The cost differences for internal television receiver and PC decoder components are even more dramatic: in 1996, the decoding capability of such devices would cost *three times* more (\$1,275) for ACATS-capability than for minimum base-line format-capability (\$425). Even 10 years out, ACATS-capable decoders in TVs and receivers would cost three times more than their minimum base-line-capable cousins.⁹⁹

These cost differences will disproportionately burden low-income households and delay (if not deny) the benefits of digital television to publicly-funded, cash-strapped institutions, such as schools, libraries, and health care institutions.

On an aggregate level, CICATS has concluded that by 2002 (some seven years after the transition to digital begins) consumers could spend as much as *\$91 billion* for ACATS-capable receiving equipment. Under the CICATS minimum base-line format proposal, consumers would have to spend only an aggregate of \$47 billion for receiving equipment, and they would still have

⁹⁷ "Cost Comparisons," Exhibit C hereto, at 5

⁹⁸ *Id.*

⁹⁹ *Id.*

transitioned to digital TV¹⁰⁰ Thus, if the Commission decides to mandata a video format, the CICATS base-line format could save consumers \$44 billion as they transition to digital television.

The enormous cost of HDTV-capable sets could doom HDTV. *Given a choice*, consumers would be unlikely to incur the enormous costs for HDTV,¹⁰¹ particularly when any improvements in picture quality over digital SDTV would be perceptible only on sets larger than 35 inches¹⁰² and only with certain types of programming.¹⁰³ But under the ACATS standard and given TV manufacturers' stated intentions, consumers would not be given this choice.

B. The CICATS Minimum Base-Line Format Standard Would Save Broadcasters Billions of Dollars That The ACATS Proposal Would Impose on Them.

As with consumer costs, there are huge disparities between broadcasters' costs of transitioning to DTV and their costs of jumping to HDTV. According to the Grand Alliance's own figures,¹⁰⁴ it will cost \$1 4 million for a local broadcaster to install a "bare bones" HDTV operation, whereas it would cost only \$720,000 to

¹⁰⁰ "Economic Considerations," Exhibit D hereto

¹⁰¹ "Economic Considerations," Exhibit D hereto at Table 1 and 3.

¹⁰² See *Broadcasting & Cable*, "Dick Wiley: Delivering on Digital; Federal Communications Commission, Television Broadcasting Digital Standard " (December 4, 1995) (Interview with Richard Wiley, Chairman of ACATS) at 32.

¹⁰³ Comments of NAB on Fourth NPRM, MM Docket No. 87-268 (filed November 20, 1995) ("NAB Comments") at 5 (benefits of HDTV "are entirely lost" with some types of programming).

¹⁰⁴ Grand Alliance Comments at 14-15. Broadcasters have claimed that their costs will be substantially (as much as three times!) higher than those claimed by the Grand Alliance. See Grand Alliance Reply at 28-29.

install SDTV-only digital studio equipment -- a 41% cost difference. If local broadcaster seeks to fully equip his studio with HDTV capability, his costs soar to some 1000% those of simply transitioning to digital SDTV -- \$6 to \$8 million!¹⁰⁵

As noted above, while the ACATS standard itself does not require broadcasters to transmit in HDTV formats, the manufacturing interests promoting the ACATS standard have urged that the Commission require broadcasters to do so, thus forcing increases in broadcasters' costs

Furthermore, by allowing both interlaced and progressive scanning formats, the ACATS standard would require broadcasters seeking to use any of the progressive-scan formats to install a de-interlacer which CICATS has determined can cost \$180,000 (or less, but with a sacrifice in quality). While the CICATS minimum base-line format proposal would also require broadcaster de-interlacing, the aggregate cost to broadcasters of installing such capability would be significantly less than the aggregate cost to consumers of receivers that can support both formats, as would be required under the ACATS proposal.

Moreover, an all-progressive transmission standard, such as CICATS's minimum base-line format proposal, could save broadcasters money over a dual-format standard, according to statements in the press by representatives of the American Broadcasting Company.¹⁰⁶

¹⁰⁵ Grand Alliance Comments at 14-15

¹⁰⁶ "ABC Believes Progressive Scanning HDTV Will Be Cheaper, Better," *Communications Daily*, June 7, 1996 at 3-4

Thus, whether or not broadcasters are required to transmit in HDTV format, a minimum base-line format such as CICATS has advanced would save them money in equipment costs, compared to the ACATS proposal -- and would save them billions of dollars in the aggregate if they are required to transmit in the ACATS standard's HDTV formats ¹⁰⁷

C. ACATS's Proposal Will Cost the Public Billions by Delaying the Return of Spectrum Currently Used for NTSC Broadcasting.

The Commission's current plan is to recover the NTSC channels from broadcasters for other uses at such time as penetration of DTV equipment has reached a critical mass and the transition to DTV is sufficient to warrant the termination of NTSC broadcasting. ¹⁰⁸ Such spectrum is extremely valuable, and could be used for a variety of revenue- and job-producing purposes, which in turn could inject billions of dollars into the U.S. economy. Moreover, if such spectrum is auctioned to potential users, the proceeds from such auctions would, based on the proceeds from recent spectrum auctions, contribute billions of dollars to the U.S. treasury for deficit reduction or other public uses. The sooner the NTSC spectrum becomes available, the sooner the public and private sectors will reap these rewards.

¹⁰⁷ This estimate is based on broadcasters' cost estimate of at least \$10 million per station, multiplied by some 1500 local stations.

¹⁰⁸ *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Docket No. 87-268, Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry, ("Fourth NPRM") 10 FCC Rcd 10540, 10546-47

The Commission has recognized that "lower[ing] the cost of ATV receivers [will] spur[] increased penetration."¹⁰⁹ As demonstrated above, the CICATS base-line video format proposal would offer consumers significantly lower costs than those under the ACATS standard. According to the analysis Dr. Selwyn has prepared for CICATS, the significantly greater cost of ACATS-capable consumer equipment would cause digital television penetration to be significantly lower (and slower) under the ACATS proposal than would be expected given the lower costs of base-line-capable consumer equipment, such as under the CICATS proposal.¹¹⁰ The delay in consumer migration to digital television will only protract the termination of NTSC broadcasting and recovery of the NTSC channels for the public's benefit.¹¹¹

V. The ACATS Standard Would Adversely Affect the Competitiveness of The Dynamic Computer and Entertainment Industries By Imposing Requirements That Limit Their Compatibility With DTV.

In the Fifth NPRM, the Commission has asked whether adoption of the ACATS standard will "enhance competitiveness of a U.S. system worldwide" and "enhance the opportunities of US based content providers, equipment manufacturers [and] other parties."¹¹² The answer to both of these questions is "no."

¹⁰⁹ Fourth NPRM at 10547; see also Second Report and Order, 7 FCC Rcd 3340, 3356.

¹¹⁰ "Economic Considerations," Exhibit D hereto at 8.

¹¹¹ *Id.* at 8; see also Fourth NPRM at 10 FCC Rcd 10540, 10548-49.

¹¹² Fifth NPRM at ¶ 68.

A. Compatibility Between Computers and DTV Is Critical, But Is Jeopardized By the ACATS Standard.

The Commission has stated that “ACATS emphasized the need for DTV broadcasting technology to be interoperable with alternative media,” and that “ACATS has recognized that interoperability takes on critical importance given the future needs for high resolution digital imagery and the development of a National Information Infrastructure.”¹¹³ But the Commission appears to have accepted ACATS’s claim that its proposed standard is “suitably interoperable” with alternative media, including computers.¹¹⁴

It is true that ACATS gave some consideration to the issue of computer compatibility. It convened an interoperability “working party” which, together with an “interoperability review panel,” developed a list of eleven characteristics that the two groups deemed critical to interoperability “based on the needs and desires exhibited by alternative media advocates.”¹¹⁵ Included among the eleven identified characteristics were transmission in progressive scanning format and square pixel spacing, or at least the option to select a display in square pixel spacing.¹¹⁶

The ACATS Final Report concluded that the level of interoperability facilitated by the ACATS standard is “adequate ” but the Commission has asked

¹¹³ Fifth NPRM at ¶ 60

¹¹⁴ *Id.*

¹¹⁵ Fifth NPRM at ¶ 61. The Commission does not identify the “alternative media advocates.”

¹¹⁶ ACATS Final Report, Appendix I.

parties to comment on whether any additional interoperability issues remain.¹¹⁷

They do.

In 1988, the Commission's tentative view was that compatibility could develop without government involvement, and that the Commission would not involve itself in setting standards that ensured compatibility between ATV and non-broadcast media.¹¹⁸ In the absence of any government-mandated standard, CICATS would welcome the resolution of compatibility issues by unimpeded market forces. But if the Commission concludes that market forces are incapable of producing a standard, it can not logically conclude that those forces will be adequate to resolve compatibility issues created by a government-mandated standard. Once government displaces natural market forces by mandating an industry standard, it is obligated to ensure that the standard does not create economic inefficiencies that the free market would not indulge. Adoption of the ACATS standard would do just that.

The importance to the public interest of facilitating economical compatibility between computers and digital TV cannot be overemphasized. The value of convergence seems to be acknowledged by everyone except the proponents of the ACATS standard.¹¹⁹ It was made clear at the *en banc* hearing

¹¹⁷ Fifth NPRM at ¶ 62

¹¹⁸ Fifth NPRM at ¶ 63

¹¹⁹ See, e.g., Mundie Written Testimony, Exhibit J hereto, at 7; Stearns Written Testimony, Exhibit E hereto, at 3-4; Statement of Rep. Vernon Ehlers before the Senate Committee on Commerce, Science, and Transportation (June 20, 1996), Exhibit O hereto, Tr. 29;

in this docket by George Keyworth, of the Progress & Freedom Foundation, who testified that

[t]his issue is not just about television, nor even just about telecommunications, it is about whether we can revamp a regulatory process that was designed for another era into one that will let the computer revolution continue to thrive. . . . Virtually our entire economy, both manufacturing and service sectors, is empowered by PCs. If permitted, digital television can be a part of the next step in that ongoing digital revolution which is to connect all those computers to make them even more useful

No one can seriously dispute the value of facilitating the merger of television and computer technology. Not only would it spawn a new array of advanced services, but in doing so it would stimulate job growth in the computer software, broadcasting, and entertainment industries.

It makes no economic sense to penalize two of our country's most vital industries (by obstructing compatibility) to reward the handful of electronics manufacturers that dominate the Grand Alliance. The domestic computer and software industries contribute more to our economy in the form of jobs and capital investment than the members of the Grand Alliance could ever promise.

The Grand Alliance claims that "three of its members, Thomson, Philips, and Zenith, together employ approximately 25 000 people in the United States involved in television design, development, and manufacturing." In addition, it claims that, counting the U.S. firms that produce picture tubes (four) and picture tube glass (two), "*within the last few years the industry collectively* has invested

or announced plans to invest well over \$1 billion in upgrading their television manufacturing facilities."¹²⁰

In sharp contrast, as of January, 1995,¹²¹ U.S. *computer* companies employed approximately *1.2 million* people in this country. The U.S. *software* industry and other computer-related companies together employed an additional *1.5 million* Americans. Employment within the U.S. software industry has been growing at more than 9% annually over the past few years, and now represents .42% of U.S. employment.¹²² Within the U.S. computer hardware industry, 88% of all research and development jobs and 70% of the manufacturing jobs are located in this country. Although 62% of the hardware industry's sales are overseas, on an industry-wide basis 68% of all jobs are located here.¹²³

In terms of investment, this year the U.S. computer hardware industry -- *not including the software industry* -- will invest some \$13.2 **billion** in research and development alone. The industry typically spends 8% of its revenues on R&D, a figure that does not include capital investment.¹²⁴ Within the software industry, Microsoft itself will invest hundreds of millions of dollars *this year* just to

¹²⁰ Grand Alliance Reply at 37, n.51 (emphasis added)

¹²¹ Today, the numbers are much higher than those in the text, which were tabulated in January, 1995.

¹²² Stephen E. Siwek & Kent W. Mikkelsen, "A 20th Century Success Story: U.S. Software Industry Trends, 1987-1994" at 12-14 (prepared for the Business Software Alliance) ("Siwek & Mikkelsen").

¹²³ Computer Systems Policy Project, "Freedom to Grow" (January, 1995) ("CSPP Paper").

¹²⁴ CSPP Paper.

develop interactive media products. Growth in the U.S. software industry has outpaced the domestic economy. The software industry now accounts for 0.80 percent of the gross national product as compared to 0.43 percent in 1987.¹²⁵

On balance, the Grand Alliance's claims (and those of its devotees) that adoption of the ACATS standard will be good for the U.S. economy are flimsy and cannot possibly justify the hardship to the U.S. computer and software industries that would result from adoption of a computer-unfriendly standard. Given the considerable contributions the computer and software industries make to our economy, CICATS's predictions that a computer-compatible DTV standard will produce more economic benefits for all Americans than an incompatible standard should not be dismissed.

Furthermore, adoption of CICATS's proposed minimum base-line format¹²⁶ will not prevent the consumer electronics industry from creating jobs related to DTV. As demonstrated below, if the Commission adopts CICATS's proposal, the consumer electronics industry will still make a lot of money selling digital receivers and converters, though not the windfall (at consumer expense) it would reap under the ACATS standard. In no way will CICATS's proposal eliminate any of the few jobs that TV manufacturers have allowed to stay in the U.S. CICATS's proposal would not preclude the sale of sets with HDTV formats; it simply would not effectively mandate it

¹²⁵ Siwek & Mikkelsen at 11-12.

¹²⁶ See Section III below

If designed for cost-effective compatibility with computers, Advanced Television could produce a rich array of products and services that extend well beyond HDTV. The highly acclaimed feature film *Toy Story*, which was completely generated by computer, was an early example of the possibilities inherent in combining computer processing power with the visual creativity of the entertainment industry. Innumerable other multi-media projects designed for educational, entertainment, and other purposes are in development.¹²⁷ The leading producers of entertainment and media have all recognized the potential market for products combining computer technology and entertainment or media production expertise.¹²⁸ Microsoft and NBC, to cite one example, have formed a joint venture, MSNBC, which will deliver 24-hour news services over a cable channel and the Internet.¹²⁹

Along with reporting, the Redmond crew will work with software engineers to add new touches to reporting: say, news on a change in national taxes might include a program that helps consumers figure out how it affects them.

In addition to spawning new and advanced products and services for domestic consumption, the convergence of broadcasting and computing will be

¹²⁷ "A Software Giant's Hard News Hopes: Microsoft, NBC Ready Cable TV-Web Venture," *The Washington Post* (June 27, 1996) at D9 ("News Hopes"); "For Users, Promises of Internet are Light-Years Away," *USA Today* (June 26, 1996) at 4D.

¹²⁸ See, e.g., Horowitz Testimony, Tr. 157 ("Viacom wants to supply our products and new enhanced and expanded . . . products to every possible distribution outlet, from broadcast, to . . . computers and the global information infrastructure.")

¹²⁹ "News Hopes" at D10.

good for the U.S. economy. The entertainment, computer, and software industries are among the largest exporters of American products. If they are allowed to diversify and grow by combining their individual capabilities, they will not only create a boon for the domestic economy by creating jobs, but will also strengthen our position in world markets and improve the balance of international trade.

B. The ACATS Standard Would Stifle the Convergence of Television and Computers and Growth of the United States Computer Industry.

The United States computer industry "leads America's competitiveness in the world"¹³⁰ and is the fifth largest exporter among U.S. industries.¹³¹ It is unrivaled worldwide in terms of market share and technological innovation.¹³² U.S. companies rank first, second, and third in worldwide sales of mid-range computers, workstations and personal computers and first and second in worldwide sales of mainframe computers. The industry generates enormous economic benefits for the entire economy, creating employment opportunities in what are, for the most part, high paying jobs.¹³³ Some 70% of all U.S. company

¹³⁰ Oral Testimony of Robert Stearns, Compaq Computer Corporation, before the Senate Committee on Commerce, Science, and Transportation (June 20, 1996) ("Stearns Oral Testimony"), Exhibit P hereto, Tr. 127; see Hummell Testimony, Exhibit N hereto, Tr. 140 ("When you talk about the computer industry and the entertainment industry, we follow probably second and third right after the aerospace industry as sort of the leading as far as enterprises in the United States economy, exporter[] and things like that").

¹³¹ Siwek & Mikkelsen at 18.

¹³² CSPP Paper.

¹³³ Stearns Oral Testimony, Exhibit P hereto, Tr. 127.

computer manufacturing jobs, and 88% of all U.S. company computer research and development jobs, are located in the United States.

Continued growth is expected in this sector of the U.S. economy due in part to the anticipated development of the National Information Infrastructure. The computer industry -- like the government -- looks forward to the opportunities that the NII will bring and, based on its previous experience, believes that it will be at the forefront of the transition. The ACATS standard, however, threatens to bring the convergence of television and personal computing to a screeching halt, delaying entry into the NII via the air waves, and turning the computer industry's expansion into emerging multi-media ventures away from the broadcast arena.

The ingenuity that the computer industry has shown in the past could, and would, be brought to bear in television broadcasting if the Commission were to adopt CICATS's proposed base-line video format in place of the more complex and expensive ACATS standard. Computer consumer electronics, and broadcast companies would bring together the best of both worlds, manufacturing (and working with) PC-TVs that would not be burdened by the quality and cost penalties imposed by the current digital/analog NTSC hybrid system.¹³⁴ As with the vast majority of computer industry jobs, much of the relevant manufacturing would likely take place in the United States, thereby

¹³⁴ Oral Testimony of Craig Mundie, Microsoft Corporation, before the Senate Committee on Commerce, Science, and Transportation (June 20, 1996) ("Mundie Oral Testimony"), Exhibit Q hereto, Tr. 145.

creating competition from United States companies in the provision of consumer electronics receivers that has in recent years been lacking.¹³⁵

If the Commission adopts the ACATS standard, we will witness an altogether different scenario with respect to consumer electronics -- "one that is congenial to . . . foreign-flagged TV makers." but not to the United States computer and film industries.¹³⁶ The ACATS standard will eliminate U.S.-based manufacturers of equipment capable of receiving DTV signals (either in the form of receivers, television or computer monitors or decoders) from the competition. They will find themselves far behind manufacturers of television receivers that comply with the NTSC standard -- none of which are U.S. firms¹³⁷ -- because such manufacturers have been producing sets that incorporate most of at least the low level video format requirements of the ACATS standard. Philips, Thomson, Zenith (which is now majority-owned by Lucky/Goldstar of Korea), Sony, Matsushita, and Mitsubishi have such experience. Philips, Thomson and Zenith were active members of the Digital HDTV Grand Alliance that sponsors

¹³⁵ Stearns Oral Testimony, Exhibit P hereto, Tr. 127.

¹³⁶ "Microsoft Jumps Into HDTV War," *Electronic Engineering Times* (June 17, 1996) at 1, (quoting FCC Chairman Reed Hundt.)

¹³⁷ Hummell Testimony, Exhibit N hereto, Tr. 154, 139., Philips and Thomson -- both of which are European companies -- alone account for almost half of current domestic television sales. Oral Testimony of Dr. Peter Bingham (Philips Electronics, North American Corporation) before the Senate Committee on Commerce, Science, and Transportation (June 20, 1996) ("Bingham Testimony") Tr. 141. Contrary to the statements of Robert Wright, President and CEO of NBC, the government does not need "to encourage the Thomsons, the RCA's [a division of Thomson Consumer Electronics] . . . to be out there doing this," nor the Sony's, Matsushita's or Mitsubishi's to produce such products. Oral Testimony of Robert C. Wright before the Senate Committee on Commerce, Science, and Transportation (June 20, 1996) ("Wright Oral Testimony") Tr. 48.

the ACATS standard. By contrast, no computer manufacturer has experience producing computer monitors or decoders that meet the ACATS standard because none of the video formats conform completely to the format of computer monitors.

Thomson and Philips pushed vehemently for the inclusion of interlaced scanning formats in the ACATS standard. According to Jae Lim of MIT Media Lab, who was involved in the development of the ACATS standard, it was included "only because . . . European manufacturers had large investments in interlace."¹³⁸ U.S. based computer hardware manufacturers may thus be dissuaded from entering into the PC-TV business if the market is dominated by existing providers with substantial investments in production capacity.¹³⁹ Even if U.S. companies nevertheless decided to go forward, the European's and Japanese manufacturers would have a head start in gearing up for production -- an advantage that may not easily be overcome.¹⁴⁰

The ACATS standard is also likely to have a negative influence on American manufacturers and potential manufacturers of broadcast production and transmission equipment. The broadcast studio and production equipment

¹³⁸ "MIT Opposes Compromise; HDTV Transition from Interlaced to Progressive to Raise Costs," *Communications Daily* (May 26, 1993) at 2; see also Hummell Testimony, Exhibit N hereto, Tr. 135 (the Grand Alliance proposal is "essentially driven to the conclusions it reaches in order to satisfy the desires of offshore television set manufacturers.")

¹³⁹ See Stearns Oral Testimony, Exhibit P hereto Tr. 127

¹⁴⁰ See Farrell & Shapiro at 6 ("One cost of delay in setting standards may be that foreign firms will gain an edge over U.S. television manufacturers (which means Zenith, if one judges by ownership) by moving down a learning curve manufacturing HDTV equipment.").

market, like the broadcast receiver market, is currently dominated by foreign manufacturers. As in the receiver market, inclusion of the interlaced scanning format will help these manufacturers maintain their market positions by thwarting potential competition from U.S. companies, such as Polaroid, which has developed a new progressive scanning camera as a replacement for interlaced cameras. The lower level formats are likely to become the *de facto* standard, while broadcasters and consumers test the waters of high-quality digital television.¹⁴¹

C. The ACATS Standard Would Threaten the Appeal of Films Made in the United States and Undercut an Industry that Contributes to the Balance of Trade.

The United States film industry prides itself on the quality and public appeal of its films. It is one of the most dynamic United States industries and contributes heavily to the balance of trade by exporting much of its artistic work.¹⁴² The film industry, like the computer industry, has serious concerns about the ACATS standard. It is particularly vexed by the proposal to include in the video format options interlaced scanning and the 16:9 or 4:3 aspect ratios,¹⁴³ and the effect that this would have upon its ability to distribute its work both domestically and abroad without quality corruption.

¹⁴¹ See "Economic Considerations," Exhibit D hereto, at 6.

¹⁴² Hummell Testimony, Exhibit N hereto, Tr. 140.

¹⁴³ Fifth NPRM at ¶ 49; Hummell Testimony, Exhibit N hereto, Tr. 136-38.

The film industry's appeal turns in large part upon the quality of the product it delivers to domestic and foreign audiences. The ACATS standard -- while no worse than the NTSC, PAL or analog Japanese HDTV standard -- does little to correct the problems associated with the distribution of film over terrestrial broadcast facilities. A more aesthetically pleasing standard would increase the appeal of films both domestically and overseas. The Commission should not let the opportunity to help the film industry promote its product pass it by, and should certainly not impose rules that detract from the product's appeal.

In sum, adoption of the ACATS standard would negatively affect every relevant aspect of American industry. It would thwart the development of the NII and the computer industry's ability to compete in production of receivers and processing capabilities; wall foreign manufacturers off from potential United States competition in digital television production equipment and receivers; and throw away an opportunity to increase the attractiveness of domestic films both here and abroad.

VI. CICATS Has Satisfied The Burden Imposed by the Commission Upon Parties Challenging the Proposed Standard.

It should be obvious that the members of CICATS are committed to using DTV to its fullest potential and to the greatest advantage of the public. The Commission must decide whether that goal is best served by adopting *no* standard or by adopting some other form of standard. Although the Commission has warned that "those opposing our mandate of the ACATS DTV Standard should have the burden of persuasion as to why that standard should not be

adopted,”¹⁴⁴ CICATS respectfully submits that it has carried that burden.

Minimizing costs and maximizing the compatibility of DTV and computers is critical, particularly since the Commission has found that “the public interest compels a Commission role in the development of standards with the advice and involvement of *all sectors of the industry*.”¹⁴⁵

CICATS believes that the Commission in the Fifth NPRM has improperly placed the burden of defeating the ACATS standard on the standard’s opponents, rather than placing the burden of justifying the substantial costs that the ACATS standards would impose upon consumers and major U.S. industries on the standard’s advocates. Even given this improperly allocated burden of persuasion, CICATS submits that it has satisfied any standard of proof, and thus the ACATS standard should be rejected

CONCLUSION

In summary, CICATS believes the market, not government, is best suited to develop a standard for digital television. If, however, the Commission determines that the public interest would be best served by adopting a standard, that standard should *not* be the ACATS standard, but instead should incorporate CICATS’s proposed minimum base-line format in that standard. CICATS’s

¹⁴⁴ Fifth NPRM at ¶ 54.

¹⁴⁵ Fifth NPRM at ¶ 23 (emphasis added)

proposal would have the following advantages, among others, over the ACATS standard:

1. It improves on the Grand Alliance's work, and does *not* require re-inventing the wheel or entail delay.
2. It would provide certainty for broadcasters, manufacturers, and consumers.
3. It would provide flexibility to broadcasters and manufacturers and choices to consumers.
4. It would drive technology forward.
5. It would facilitate compatibility with computers and the introduction of new products and services.
6. It would accelerate the penetration of digital television equipment and digital broadcasting and thus the return of analog TV spectrum.
7. It would benefit the U.S. economy and global competitiveness.
8. Most importantly, it would save consumers *billions of dollars* while providing them with a path to move to DTV.

For the foregoing reasons, the Computer Industry Coalition on Advanced Television Service urges the Commission to refrain from adopting any digital television broadcast standard except to the extent necessary to prevent interference. In the alternative, if the Commission determines that adoption of a

more specific digital broadcast standard would serve the public interest, it should adopt the proposed ACATS standard only with the refinements proposed herein.

Respectfully submitted,

**COMPUTER INDUSTRY COALITION
ON ADVANCED TELEVISION
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July 11, 1996

Certificate of Service

I, Jonathan Reiter, hereby certify that true and correct copies of the preceding Comets of the Computer Industry Coalition on Advanced Television Service in the Matter of Advanced Television Systems and their Impact Upon the Existing Television Broadcast Service, MM Docket No. 87-268, Fifth Further Notice of Proposed Rule Making were served this 11th day of July, 1996 via hand delivery upon the following:

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July 11, 1996

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In the Matter of)
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Advanced Television Systems)
and Their Impact Upon the)
Existing Television Broadcast)
Service)
)

MM Docket No. 87-268

**COMMENTS OF THE
COMPUTER INDUSTRY COALITION
ON ADVANCED TELEVISION SERVICE**

VOLUME 2 OF 2: EXHIBITS

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Exhibits

Exhibit A	"Technical Flaws with the ACATS Standard"
Exhibit B	"Technical Details of the Proposed Base-Line Format of the Computer Industry Coalition on Advanced Television Service (CICATS)"
Exhibit C	"Cost Comparison of ACATS and CICATS Set-top Converters, Receivers and PC Decoders"
Exhibit D	"Economic Considerations in the Evaluation of Alternative Advanced Television Proposals"
Exhibit E	Testimony of Robert Stearns (Written)
Exhibit F	"Informal Reply Comments of William F. Schreiber"
Exhibit G	"Comparison Between Interlaced and Progressive Scanning Formats"
Exhibit H	"Advanced Television Systems for Terrestrial Broadcasting: Some Problems and Some Proposed Solutions"
Exhibit I	"Temporal and Resolution Layering in Advanced Television"
Exhibit J	Written Statement of Craig Mundie
Exhibit K	"A Video Compression Efficiency Analysis using Progressive and Interlaced Scanning"
Exhibit L	"Progressive versus Interlaced Coding"
Exhibit M	Letter from William F. Schreiber to Chairman Reed Hundt
Exhibit N	Testimony of Rob Hummell
Exhibit O	Testimony of Representative Vernon J. Ehlers
Exhibit P	Testimony of Robert Stearns (Oral)
Exhibit Q	Testimony of Craig Mundie (Oral)